CALTRANS SALUTES

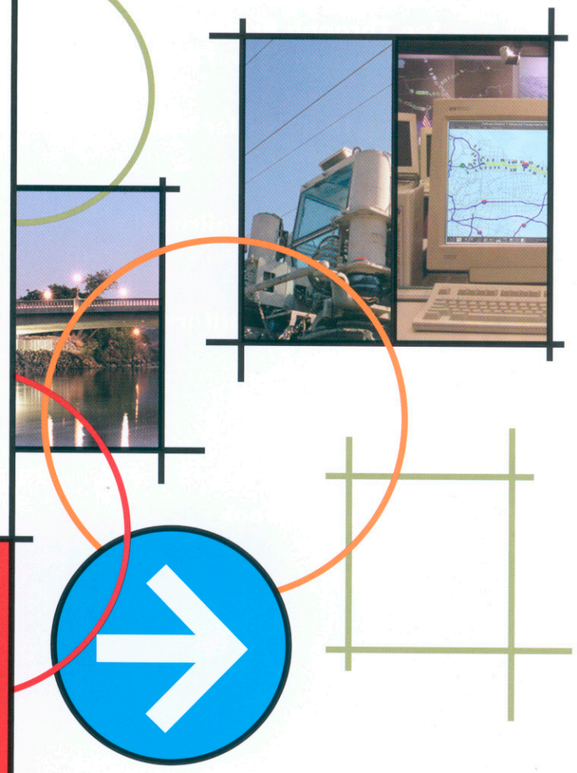
Transportation Excellence

In these pages, the Journal proudly features the recipients of the 2003 Excellence in Transportation Awards Program. For more than 100 years, Caltrans and its predecessors have lived excellence; 18 years ago, the department began showcasing outstanding work in transportation design, construction, operations and technology by establishing the Excellence in Transportation Awards program. Annually, this program salutes those in Caltrans, local agencies and business who are dedicated to producing excellence for California's taxpayers.

Recipients are named in categories for intermodal transportation, rural and urban highways, major structures, environment, other related transportation facilities, system operations, safety, historic preservation and cultural enhancement, maintenance equipment and operations, context-sensitive solutions, innovation and public awareness. The judges reserve special recognition for the biggest bang for the buck. All of these, taken together, reflect the vast scope of endeavor at Caltrans and its sister agencies.

The Journal publishes these accounts of projects and activities in the hope that the creativity and industry demonstrated therein may be emulated elsewhere.

The winners of the 2003 Excellence in Transportation Awards program:



Intermodal Transportation
Alameda Corridor

- Alameda Corridor Transportation Authority
- Port of Los Angeles
- Port of Long Beach
- Caltrans District 7

The Alameda Corridor is a 32 km-long freight rail expressway linking the nation's two busiest ports in Los Angeles and Long Beach to rail yards near downtown Los Angeles. Completed at a cost of $2.1 billion, it has eliminated more than 200 at-grade crossings and accommodates as many as 100 train movements daily, allowing trips of about a quarter of previous lengths. The project enhanced public safety, reduced vehicle emissions, removed more than 450 000 tons of contaminated soils and treated two billion liters of groundwater. The project's signature element, the mid-corridor trench, 10 m deep, 15 m wide and 16 km long, replaced an at-grade branch line that was an eyesore for residents and physically divided communities including central business districts.

Intermodal Transportation
Rail 2 Rail: Amtrak-Metrolink Fare Integration Program

- SCRRA
- Amtrak
- Caltrans Rail Division

Rail 2 Rail allows rail passengers to take the first available trip to their destination, whether a Metrolink train, an Amtrak Pacific Surfliner train or Amtrak bus at no additional charge to the rider. The annual cost of the program, $450 000, provides additional public transportation capacity at a lower cost than adding additional service. Now, through a partnership with Southwest Airlines, the airline's tickets and boarding passes are also valid between Burbank Airport and SCRRA and Amtrak destinations. Metrolink monthly pass holders on Amtrak trains increased from 9832 to 14 952 in the first month of operation.

Rural Highway
Sonoma Creek Bridge Seismic Retrofit and Barrier Placement

- Caltrans Division of Engineering Services
- U.S. Fish and Wildlife Service
- California Department of Fish and Game
- San Francisco Bay Conservation and Development Commission

The 550 m-long State Route 37 Sonoma Creek Bridge, sitting in an extremely sensitive tidal marsh environment in the northern San Francisco Bay Area, was retrofitted with seismic strengthening by a project completed in 2002. The structural design solution, prepared by Parsons-Brinckerhoff, was lauded by the SF Bay Conservation and Development Commission's Design Review Board for improving the bridge's aesthetic quality while protecting critical marsh habitat. The project represented a successful multi-agency collaboration to complete a project within habitat of endangered species. An interagency agreement for offsite mitigation minimized Caltrans' day-to-day involvement in implementing mitigation commitments; the department's partnership with permitting agencies received a public commendation from the Marin Audubon Society.

Rural Highway
Cold Foam, In-Place Recycling on State Route 20

- Caltrans North Region Materials Lab, Construction and Design

Cold foam in-place recycling, a new technology to the State of California, was used to rehabilitate the pavement on State Route 20 in Colusa County. The route, which carries large numbers of trucks, functions under difficult conditions between irrigated fields with water elevations higher than the roadway, basement soil with poor strength characteristics and summer pavement temperatures that reach 77° C. In the cold foam process, the pavement is excavated below the bottom of the asphalt and into the existing base material to eliminate problems at the root. Hot paving oil is mixed with cold water and air to create a foaming action, coating flour-sized material with foamed asphalt to provide a new pavement with a life approximately three times that of previously used techniques.

Urban Highway
Watt Avenue Improvement Project

- Sacramento County Department of Transportation
- Nolte and Associates
- MCM Construction

The Watt Avenue Bridge over the wild and scenic American River carries in excess of 100 000 vehicles daily, and by 1996 had become one of the most congested roadways in the Sacramento area. The improvement project widened the existing bridge to improve mobility and safety and to make the area more aesthetically pleasing for motorists, bicyclists, pedestrians and area residents. The project improved circulation from US 50 to nearby neighborhoods, added one lane in each direction and added auxiliary merge lanes between local collector roads on either side of the river. Although the project, during planning stages, had been the subject of major controversy and neighborhood opposition, it received the congratulations of its most strenuous opponents when it was completed.

Urban Highway
US 50 HOV Lanes/ Sunrise Interchange

- Caltrans District 3/North Region Project Program Management
- County of Sacramento
- El Dorado County Transportation Commission

Funded by the El Dorado County Transportation Agency but lying in Sacramento County, this project made major improvements to the Sunrise Boulevard Interchange with US 50. It also added almost 20 km of carpool lanes, widened the overcrossing and on- and off-ramps, eliminated two loop off-ramps and installed ramp meters. The project improved mobility in eastern Sacramento and western El Dorado counties, among the fastest-growing areas of the state. The level of partnership was extensive and included six different jurisdictions and various utilities which worked together to minimize disruption to the public. A joint public outreach team, established to explain the project and to provide information to drivers, nearby residents and businesses, was highly successful.

Major Structure
Pier View Way Bicycle and Pedestrian Rail Undercrossing

- City of Oceanside
- San Diego Association of Governments
- North San Diego County Transit District
- Amtrak
- Caltrans District 11

The Pier View Way Bicycle and Pedestrian Undercrossing is a multi-modal non-motorized bicycle and pedestrian crossing of the only interregional rail right of way serving San Diego County. It used innovative engineering and design elements to provide safe and efficient passage for pedestrians and bicyclists between downtown Oceanside and the Oceanside Pier. Project proponents expect that more than four million people will use it each year. Prior to construction, bicyclists and pedestrians, unwilling to travel the more than three city blocks to access the pier, frequently crossed the tracks, resulting in many pedestrian accidents and close calls with frequent high-speed train operations. The project was also designed with the coastal scenery in mind, using soft colors, gently sloping ramps, planters and other aesthetically pleasing accouterments.

Major Structures
Truckee River Bridge and Overhead

- Caltrans Division of Engineering Services Structure Design Branch 7
- Caltrans District 3

The Truckee River Bridge and Overhead is the primary component of the Truckee Bypass. Viewed from downtown Truckee, the 465 m bridge frames the eastern horizon. It consists of seven long spans with flaring columns that blend seamlessly with exterior girders and is aesthetically proportioned to maintain a bold but graceful appearance. To withstand heavy use of tire chains and the abrasion of snow removal equipment, it incorporates high performance concrete, epoxy-coated reinforcement and a polyester concrete overlay to extend its service life. It contains provisions for future installation of a weather-sensing de-icing system, and carries a sanitary sewer line across the valley, completely concealed within the structure. In the strength and simplicity of its form, the bridge brings a rugged beauty that harmonizes with nearby mountains.

The Environment
Grass Valley Cloverleaf

- Caltrans District 3 Maintenance, Grass Valley

The six-person Nevada City Landscape Crew transformed this nearly-barren plot of land from eyesore to eye-catcher in just a month's time at minimal cost to the taxpayers. Using an underground automated irrigation system and 500 m^3 of shredded cedar bark, they reduced crew exposure and cut maintenance costs by eliminating hand watering, weed pulling, mowing and herbicide spraying. They selected native trees and shrubs with a high survival rate and aesthetic appeal. The finishing touch was to circle the area with a 2.4 to 5 m border of 20 mm drain rock obtained from a canceled construction project. Community reaction has been overwhelming, with many calls and letters, including one from the mayor of Grass Valley. As a side bonus, litter in the area has dropped off and public reaction to work in other areas has been favorable.

The Environment
Martinez Regional Shoreline Park Enhancement

- Caltrans District 4
- East Bay Regional Parks District
- City of Martinez
- Parsons

Caltrans resolved three environmental challenges—mitigating impacts of the Carquinez Bridge seismic safety project, reducing flood hazards to downtown Martinez and enhancing parklands by collaborating with local agencies to develop the Martinez Regional Shoreline Park Enhancement. The project enhances the existing drainage system, builds on the rail system in the Martinez Regional Shoreline Park and restores tidal sloughs in areas that had been filled with non-native soils. Native salt marsh vegetation was provided along the margins of the channels and over the restored marsh plain. The project reduces flood hazards in downtown Martinez and provides a new connection to the park. Trails, benches and interpretive signs allow park users to access and learn about tidal sloughs and salt marsh habitat; park users enjoy stunning vistas of San Francisco Bay and the Carquinez Strait.

Transportation Related Facilities
Interior Noise Abatement for Route 15/40th Street

- Caltrans District 11
- Parsons Brinckerhoff Quade & Douglas

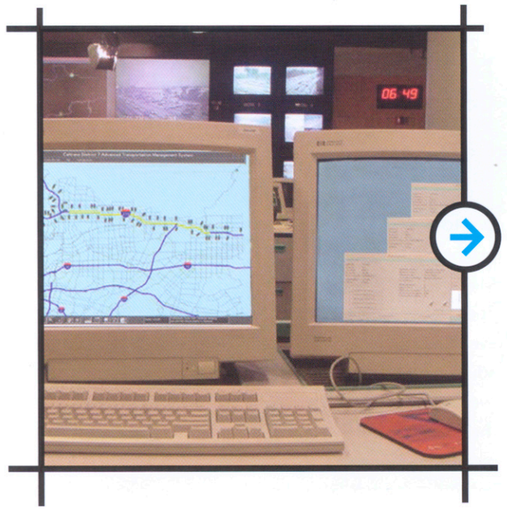
Steep terrain and poor soil conditions in backyards along Route 15 in San Diego limited locations for construction of soundwalls in the project area. Caltrans District 11 proposed a demonstration project to use interior noise abatement measures, including mechanical ventilation and double-pane windows in residential units. The process identified noise abatement strategies to attain an interior noise level of 52 dBA or lower. A Value Analysis Team recommended direct cash payments to homeowners who, in turn, hired contractors to install the abatement treatments; Caltrans secured permission from homeowners to inspect the proposed improvements within 18 months of execution of the contract to verify its utility. The cost of the treatment averaged about $11 000, in comparison to an expected reasonable cost allowance of $37 000 in this community.

Transportation Related Facilities

San Buenaventura Bus Transfer Center

- City of Buenaventura
- Ventura County Transportation Commission

The seven-bay Bus Transfer Center project in San Buenaventura near the Pacific View Mall integrated an artistic concept "Bus Home" into a fully functional transit facility. Serving 2.5 million transit riders annually, the center provides a centralized location to transfer between South Coast Area Transit bus routes and VISTA intercity bus service. The shelter consists of a corkscrew-like pattern of arched and half-arched steel forms depicting a bus changing into a home. The site also includes artist-designed restrooms, bicycle racks, benches, information kiosk, drinking fountain and trash containers, and accommodates a state-of-the-art bus tracking system. The project was completed on time and within budget at a cost of $1.7 million. Design professionals included a public artist, architect, structural engineer, civil engineer, landscape architect and transit operators. The design was also assisted by the general public through meetings and workshops with the Public Arts Commission and the City Council.



System Operations

System-Wide Adaptive Ramp Metering

- Caltrans District 7

System-wide adaptive ramp metering is a new real-time tool developed by Caltrans District 7 and the National Engineering Technology Corporation. The technology looks at the entire freeway system and predicts when and where congestion will occur, using real-time traffic data. The system adjusts upstream metering rates to avoid developing freeway congestion, reduce traveler delays and improve operations. The technology increases mainline volumes and is responsive to real-time traffic conditions on the system. It improves traffic safety and reduces conflicts at merge areas and potential secondary accidents due to congestion. Its operational costs are minimal because ramp controllers do not need special maintenance and metering rates are generated by a central system.

Safety

Angeles Crest Highway Traffic Safety Corridor

- Caltrans District 7 Office of Traffic Investigations
- California Highway Patrol
- Los Angeles County Sheriff's Department
- Caltrans District 7 Division of Maintenance

State Route 2, the Angeles Crest Highway, was troubled by an increasing number of fatalities. A task force of Caltrans, the California Highway Patrol and a number of other local and state agencies was formed after the route was designated a Traffic Safety Corridor project. The task force recommended a number of actions to ameliorate the problem, of which 46 were implemented. These included reduction of the speed limit on selected segments, installation of winding road and rock slide area symbols, establishment of a daylight headlight section, implementation of a double fine zone for the entire corridor, installation of barrier and guardrail, and changeable message signs. The number of collisions and fatalities was reduced by 14 percent and is expected to drop further as additional measures recommended by the task force are put in place.

Public Awareness
Irvine Public Works Community Connection Program

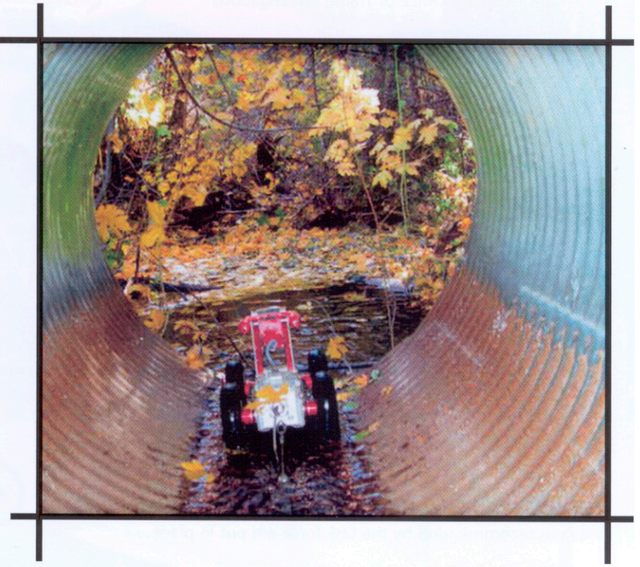
- City of Irvine

The City of Irvine Public Works Department's Community Outreach Effort is both demanding and dramatic in its planning, implementation and outcomes. On Saturday, May 19, 2001, the department hosted its third annual open house in honor of National Public Works Week. The event was a tremendous success, with more than 1400 adults and children attending the three-hour morning event. Children of all ages had their pictures taken on their choice of a street sweeper or dump truck; those pictures, wrapped in a commemorative folder, quickly became treasured keepsakes. Residents enjoyed games, exhibits, demonstrations and refreshments, and participated in prize drawings. The occasion was part of the department's larger, comprehensive outreach program that also utilizes newsletters, news articles, construction signage, a dynamic Web site and school outreach.

Maintenance Operations
Culvert Inventory and Assessment

- Caltrans District 2
- Caltrans District 5 Roadside Maintenance
- Caltrans HQ Maintenance

District 2's inventory of its more than 30 000 culverts includes global positioning system coordinates, external photos of end treatment, internal photos of culverts, drainage as-built plans, type of end treatment, size and material type. An assessment for each culvert and end treatment is provided to determine future lifespan. Field crews use preplanned programs called data dictionaries to collect detailed drainage information expediently. A remote-controlled culvert camera is used to assess internal culvert components.



Maintenance Operations
Coronado Bridge Painting Platform System

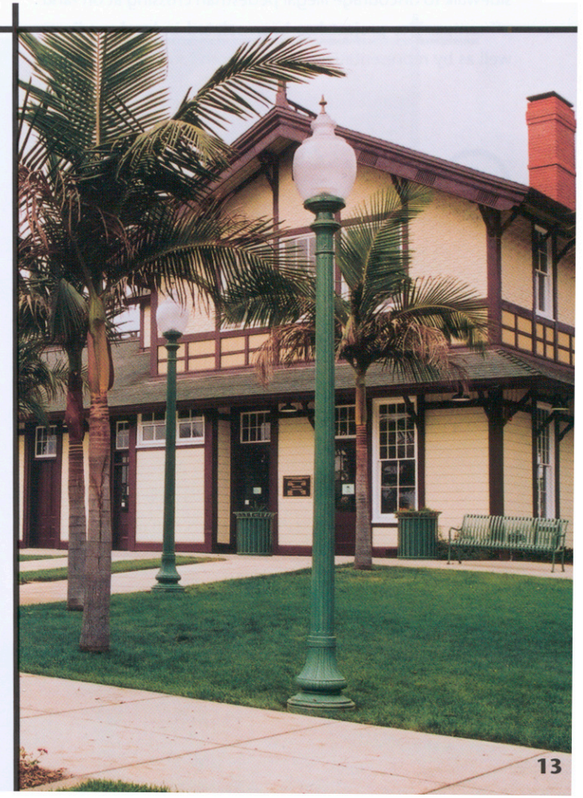
- Caltrans District 11 Division of Maintenance

The Coronado Bridge Painting Platform System was designed in 2001 to provide more flexibility, stability, cost efficiency and ability to meet environmental regulations and constraints. The stability of the wide platform allows multiple crews to work concurrently to perform 4600 m^2 of painting, sandblasting and power washing in a two-week period; painting crews can accomplish nine months worth of work in five months. Combined with its secondary tarp system, the platform can be built in collective angles to control water operations and capture water discharge, debris and dust. This eliminates regulatory violations and allows crews to continue production in adverse weather. The time required to deploy and remove the platform is minimal, resulting in fewer traffic disruptions.

Historic Preservation/ Cultural Enhancement
Whittier Depot Transportation Center

- Caltrans District 7 Environmental Planning
- Save the Depot
- Metropolitan Transportation Authority
- City of Whittier

This Transportation Enhancement Activities project rehabilitated the 1886 Southern Pacific Depot in Whittier, the only one of its kind in Southern California. When a developer threatened to destroy it, the "Save the Depot" community group convinced the City of Whittier to acquire it for future use. Other than requiring minor adjustments for seismic retrofitting and restrooms, the depot was intact. It was moved to a new location and set on a new foundation and new wiring, plumbing and insulation were installed. The depot's exterior was painted in historically accurate colors. Its generously sized site, well-located in the center of town, provides ample parking and a lovely passive park. It has become a new community hub for multi-modal transportation, visitor information and historic interpretation in Whittier.



Context-Sensitive Solutions
Sacramento Route 160 Undercrossing Treatment

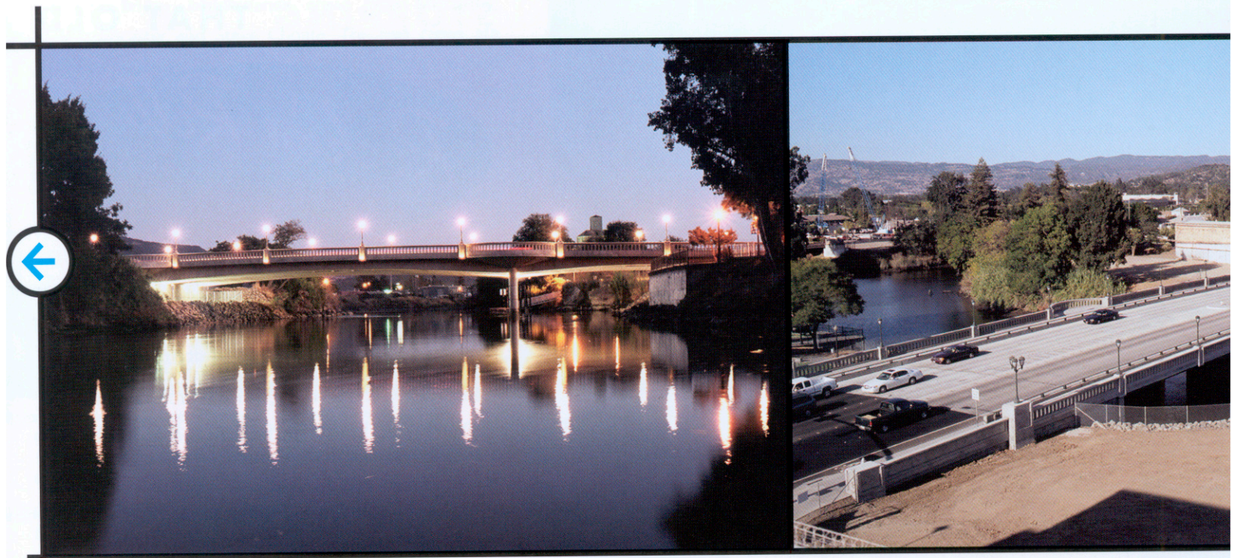
- Caltrans District 3/North Region
- City of Sacramento Public Works
- The Broadway Task Force

Caltrans District 3 has completed a project to enhance two blocks that serve as a local street in Sacramento with visual features that reflect the nearby Broadway district's art deco stylings. The design incorporates historic post-type acorn lighting, a monument with art deco-style features, an artistic security fence, planters, and accent landscape lighting. Slope paving is partially tiled and painted; the art deco-themed design provides an aesthetic appeal to the user by introducing color into the environment. Slopes are lit at night with landscape accent lights providing a nighttime effect of a series of light and dark washes. Cobble blanket, mortared in place, replaces end portions of the original sidewalk to discourage illegal pedestrian crossing at on -and off-ramps. The project has been saluted in local media as well as by representatives of neighborhood organizations.

Context-Sensitive Solutions
Third Street Bridge over the Napa River

- Earth Tech/J. Muller International
- City of Napa
- MCM Construction
- Parsons Brinckerhoff Construction Services

This project replaced the seismically deficient and inadequate Third Street Bridge in Napa with a a longer and higher structure. As a gateway to downtown, the bridge contains aesthetic features, including a graceful, slightly arched form and variable-depth girders with shallow midspan sections to reduce its apparent mass. The bridge, which now carries two lanes of traffic, a turn lane and a bike lane in each direction with 10-foot sidewalks, provides a pedestrian connection between businesses, shops and restaurants of downtown Napa with the nearby county fairgrounds and the American Center for Wine, Food and the Arts. Broadened sidewalks and belvederes invite pedestrians to pause and enjoy views, and vehicular circulation is improved with new turn lanes, widened shoulders and a straightened roadway alignment.



Transportation Innovations
Fast-Setting Cement Concrete/ Long-Life Pavement Project

- Caltrans District 7
- Morrison-Knudsen Corporation

Caltrans District 7 gave Southern California commuters a break by rehabilitating within 55 hours a portion of the eastbound San Bernardino Freeway in Pomona with fast-setting concrete. The project was an innovative part of a $16 million pilot project using fast-setting concrete for long-life pavement. This type of work usually takes three weeks of six-hour night closures. By contrast, the extended closure was very efficient, minimizing the time to achieve the end result. The district preserved and conserved natural resources by reducing fuel consumption and emissions. One key to the success of the project was an extensive public information campaign that warned highway users of the department's intent to close this busy freeway for 55 hours. The campaign was so successful that traffic tie-ups were minimal. Equally important were several computer programs used to schedule the workforce, monitor pay quantities and assess the quality of the work.